State Transportation Commission

Director's Report | July 28, 2022

Director Paul C. Ajegba, P.E.

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Today's Topics

- New Innovative Projects
- EV Projects
- Inductive Charging
- CAVNUE
- Transportation Diversity & Recruitment Program

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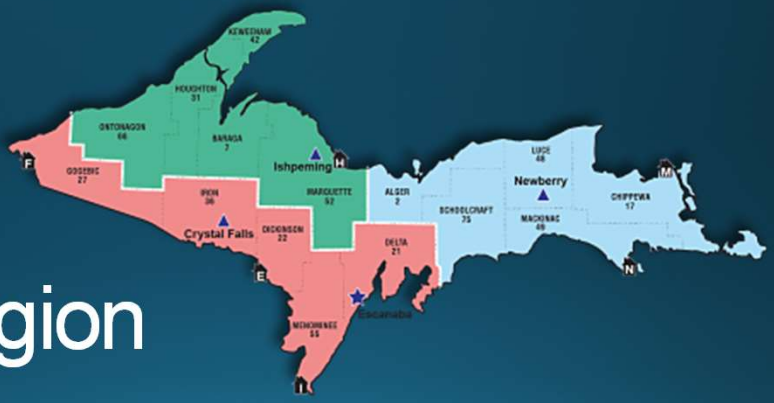
Superior Region



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Alger County
M-28

- Cost: ?$ - Priceless
- Location: M-28 between Wetmore and Shingleton
- Date: June 29, 2022
- Description: 12 military aircraft, including A-10 warthogs, touched down, conducted refueling and re-arming operations, and took off on a closed, 9,000-foot section of four-lane highway.
- Innovations: Tight coordination between MDOT, law enforcement, and the military allowed the first-ever operation of its kind on a US highway.

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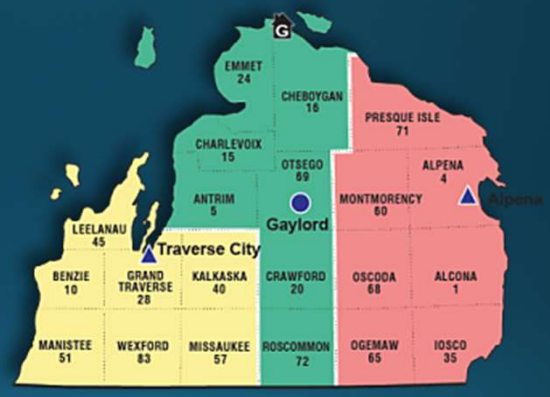
North Region



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Traffic Regulator Control (TRC) Safety Enhancements

M-65: Alpena TSC

- Overall Project Cost: $4.9 Million
- Add'l Cost for TRC Safety Enhancements: $23K
- Location: M-65 in Alcona and Alpena Counties
- Dates: May-June 2022
- Description: 27 miles of milling and resurfacing on a rural, high-speed roadway with traffic maintained via TRC.
- Innovations:
  - Automated Flagging Assistance Devices (AFAD) enabled traffic regulators to effectively control traffic while standing out of harm's way
  - A Pilot Car was also used to control vehicle speeds through the work area.

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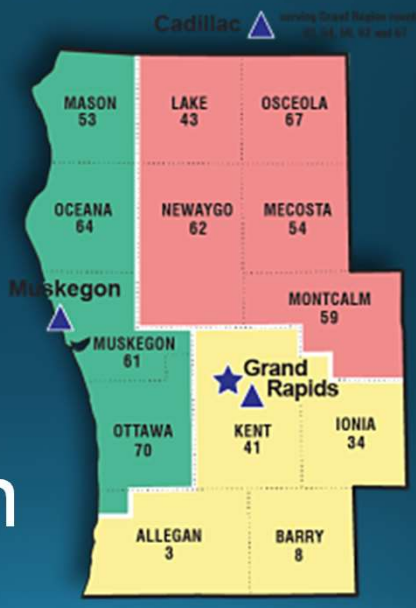
Grand Region



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Gun Lake Tribe Upgrades US-131 at M-179 Interchange

- Cost: $26 million
- Location: M-179 over US-131 in Allegan County
- Dates: March 2021 – November 2022
- Description: Construction of a Single Point Urban Interchange (SPUI) and HMA resurfacing along US-131 and M-179
- Innovations: Non-traditional funding and project development process, completed in partnership with Gun Lake Tribe (GLT)

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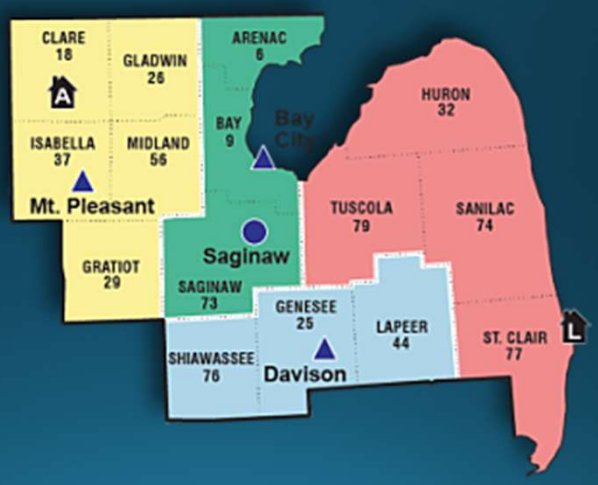
Bay Region



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Genesee County
I-69/I-475

- Bid Cost: $100 million
- Location: I-69 from Fenton Road to M-54
- Dates: April 2021 November 2022
- Description: 2.5 miles of road reconstruction and work on 19 structures.
- Innovations: Adding deck replacements to the stacked bridges in the interchange of I-69 and I-475.
- Other innovations include using Chromex Reinforcement Steel in the new bridge decks to extend the life of the bridges.

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Genesee County
I-69/I-475

- Innovations continued- using a saw and slab method to remove the bridge deck.
- Project is still schedule to open this fall.

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University Region

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Ingham County
I-496

- Cost: $82 million
- Location: I-496 from Lansing Road to the Grand River
- Dates: April 2022 – Fall 2023
- Description: 2.0 miles of road reconstruction and asphalt paving including drainage replacement, preventive maintenance on 17 bridges, local utility replacements, signing, and pavement markings
- Innovations:
  - Urban freeway reconstruction design-build
  - Full freeway closure utilizing adjacent local-owned service drives for detours

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Jackson County
I-94

- Cost: $119.2 million
- Location: I-94 from Airport Road to I-94/US-127 East interchange
- Dates: December 2020 – Fall 2023
- Description: I-94/West Avenue & I-94/Elm Rd Interchange reconstruction, Lansing Ave Bridge Replacement, mainline pavement reconstruction, freeway lighting, aesthetic gateway treatments, and pedestrian path
- Innovations: I-94/West Ave Diverging Diamond Interchange, pedestrian culvert, Design Build Project

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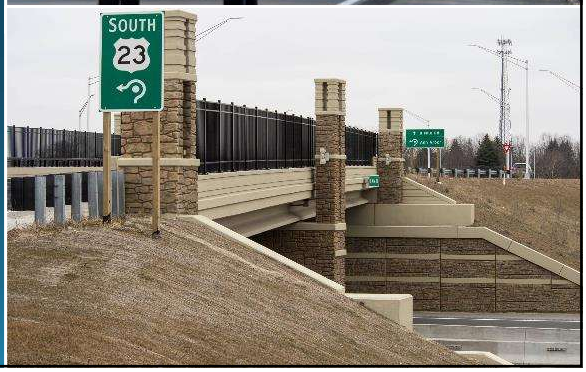
Livingston County
US-23

- Cost: $146 million
- Location: US-23 from north of 8 Mile Road to I-96
- Dates: Spring 2023 – Fall 2026
- Description: 7.46 miles of road reconstruction and rehabilitation, reconfiguration of two interchanges, ITS system, new structures at M-36.
- Innovations: Completion of the US-23 Flex Route from M-14 to I-96



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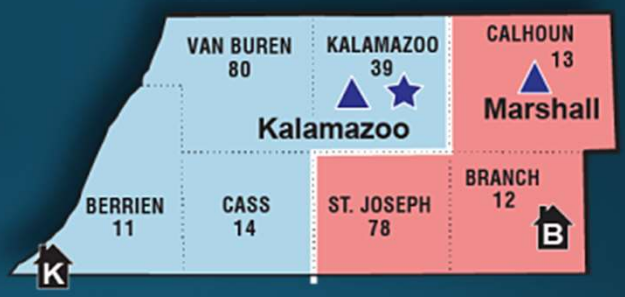
Southwest Region



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Eaton & Calhoun Counties
I-69

- Cost: $210 million
- Location: I-69 from I-94 to Island Highway
- Dates: September 2021 – Fall 2023
- Description: 24 miles of road reconstruction and asphalt paving including reconstruction of the I-69/I-94 interchange, 1 bridge replacement, preventive maintenance on 26 bridges, maintenance at 2 rest areas, signing, and pavement markings
- Innovations:
  - 4 separate projects packaged as 1 design-build contract, saving costs by accelerating overall schedule

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I-94 Pile Up
January 9, 2015

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- Cost: $4.9 million
- Location: I-94 from I-196 to US-131; Berrien, Van Buren, Kalamazoo counties
- Dates: May 21, 2021 – Fall 2022
- Description: Install ITS signs, cameras, and weather sensors along the corridor to inform road users of deteriorating conditions and suggest a safer speed, to reduce crash frequency and severity.
- Innovations: Install dual dynamic message signs in the median with camera and atmospheric sensors on the same structure .

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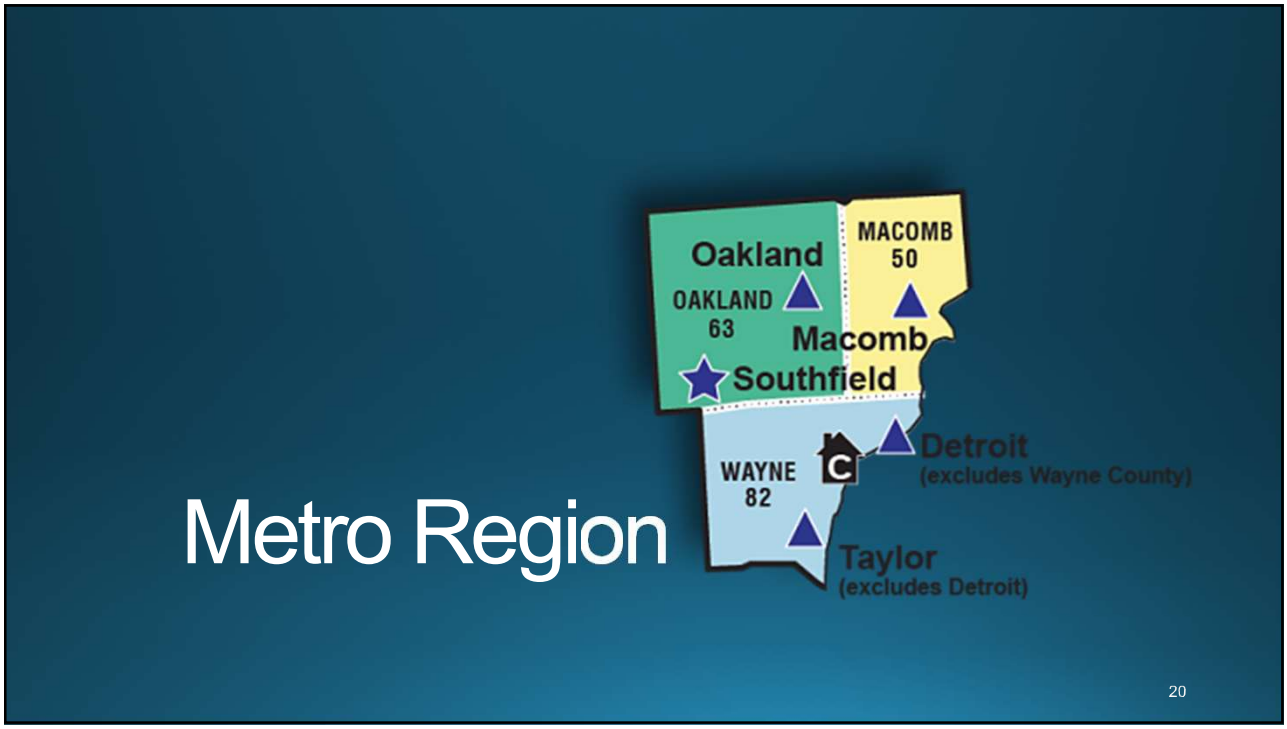

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Oakland County

Second Ave Bridge at I-94

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EV Electron Detroit

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Embracing Electric Mobility

- Electric vehicle sales **increased 40%** year-over-year, accounting for 2.6% of global car sales and about 1% of global car stock in 2019.
- 59 EV models were available in the U.S. in 2020. Each of those models had at least one sale, and 12 of those models had **more than 4,000 sales.**
- The **U.S. has around 46,000 public EV charging stations** as of 2021.

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the **Michigan state plan** for ELECTRIC VEHICLE INFRASTRUCTURE DEPLOYMENT

EV News and Trends

Michigan electric vehicle registrations climbed nearly 60 percent over the past year

Source: *https://southeast-michigan-ev-resource-kit-and-planning-hub-semcog.hub.arcgis.com/pages/interactive-maps-and-data-resources*

Ford boosts EV spending to $50 billion, sets up new Model e unit

Source: https://www.ford.com/powertrains/battery-electric-vehicles/

State officials project as many as 60k plug-in EVs on Michigan roads by 2024

GM to increase electric vehicle investment to $35B through 2025

Source: https://media.gm.com/media/cn/en/gm/news.detail.html/content/Pages/news/intl/en/2022/chevrolet/0125-michigan-investment.html

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Statewide Partnership

MDOT Michigan Department of Transportation — *Infrastructure*

MICHIGAN OFFICE OF FUTURE MOBILITY & ELECTRIFICATION — *Mobility Initiatives*

MEDC MICHIGAN ECONOMIC DEVELOPMENT CORPORATION — *Economic Development*

LEO — *Jobs & Policy*

EGLE MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY — *Charging & Grid Impact*

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Michigan's Mobility and Electrification Goals

1. Expand the Mobility and EV Industry in Michigan
2. Lead the World in Mobility and Electrification R&D
3. Grow Michigan's Smart and Connected Infrastructure
4. Accelerate EV Customer Adoption in Michigan
5. Enable Michigan's Mobility and EV Workforce
6. Bolster Michigan's Manufacturing Core

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Michigan is Taking a Systematic, Multi-Faceted Approach to Smarter and Cleaner Mobility

EV Infrastructure Facet: Worry-Free Statewide EV Travel by 2030

The Charge Up Michigan Program is building out a DC fast-charging network and operating system.

Fleet Transition Facet: Michigan Fuel Transportation Program

$30M EGLE program to transition in-state diesel fleets to low-emission or electric (across all modes of transportation).

Regional Policy Facet: 5-State Electric Vehicle Charging MOU

Michigan, Minnesota, Wisconsin, Illinois, and Indiana joined a compact to share operational and policy-based best practices for EVs.

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Michigan is Taking a Systematic, Multi-Faceted Approach to Smarter and Cleaner Mobility

Recreational Facet:

Lake Michigan EV Circuit
EV route along Lake Michigan and key tourism clusters.

Workforce Facet: MI Electric Vehicle Academy (MIREV)

Academy to help workers transition from ICE skillsets to battery electric skillsets by leveraging existing training assets.

Testing and Proving Facet: Wireless Charging Deployment

Deploying technology on a public road that allows for vehicles to charge in motion.

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Inductive Charging Corridor

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The Nation's First Electric Roadway

GCN The Technology Transforming State and Local Government

EMERGING TECH | DATA & ANALYTICS | CLOUD & INFRASTRUCTURE | CYBERSECURITY

TRENDING // AI AND AUTOMATION // COVID 19 // ELECTIONS AND VOTING // BIOMETRICS

Michigan to build nation's first EV charging public road

GETTYIMAGES/ISOGAWYI

By Shourjya Mookerjee

FEBRUARY 4, 2022

The inductive charging technology, which will power electric vehicles as they drive over it, will be installed under a one-mile stretch of road in Detroit.

Pictured: Gov. Gretchen Whitmer's first announcement of the nation's first wireless charging infrastructure pilot.

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Powering The Nation's First Electric Roadway

Prime Contractor

ELECTREON

Sub-contractors

Jacobs

NEXTENERGY

Invested Partners

Ford

M

City of Detroit

DTE

ROUSH

Kiewit

Supporting Partners

Economic Development & Advocacy

Wayne County Michigan

MICH auto

Goods Delivery

DHL

Moving People

SMART

OPTIMUS RIDE

Shared Mobility

zipcar

Entrepreneurial Support

NEWLAB

Future Mobility Technology

cavnue

ARGO AI

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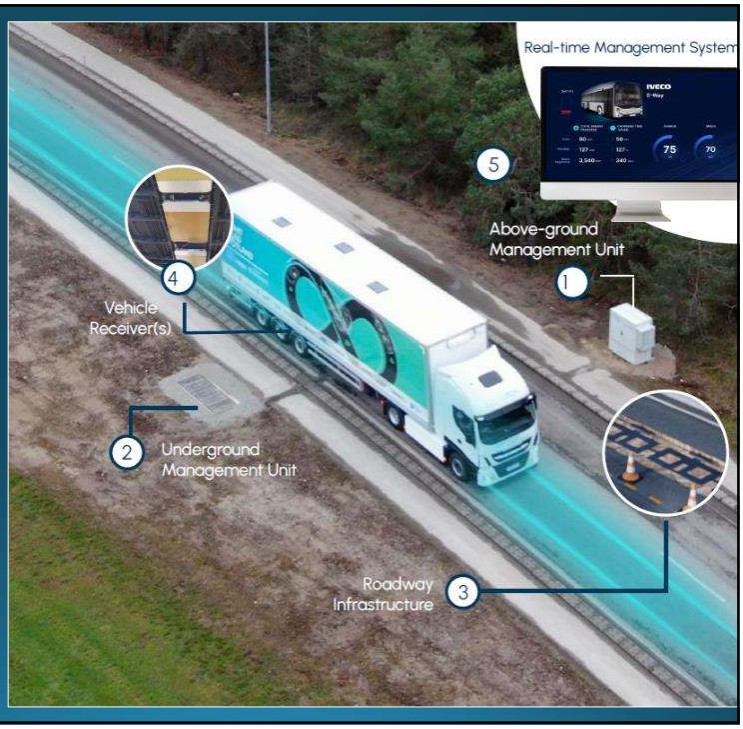
Electreon's Wireless Charging System

1. Management Unit
2. Roadway Infrastructure
3. Vehicle Receiver(s)
4. Real-time Management System



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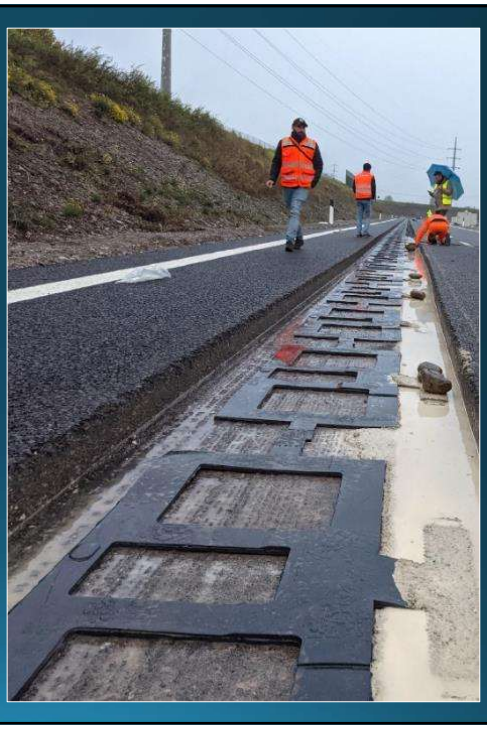
Quick Infrastructure Deployment & Seamless Installation

- Top layer of asphalt removed
- 1 km (0.62 mi) of coils can be laid with asphalt and repaved in 1-2 days
- No change to the road surface



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Enabling Smart, Electric, Connected, Shared, and Autonomous Urban Mobility

Inductive Charging Corridor Use Cases for **Smart, Urban Mobility**

Transit

Last Mile Delivery

Passenger vehicles

Freight

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CAVNUE

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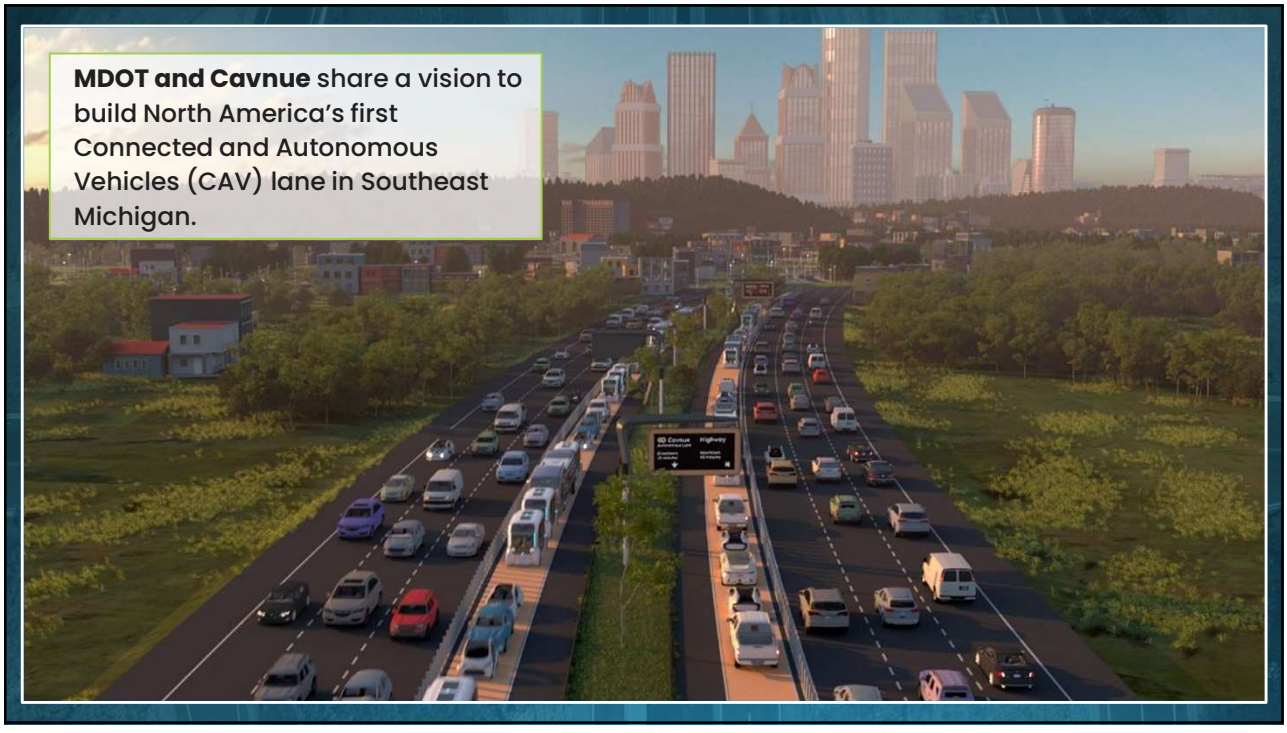

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Michigan CAV-C Project Overview

Launch

- Launched Cavnue in August 2020 in Michigan

- Announced flagship project with key partners in government and private sector

Governor Gretchen Whitmer at announcement

Co-development

- Signed exclusive Master Developer agreement with Michigan Department of Transportation

MDOT — Controls the right of way

cavnue — Funder and Master Developer

Co-lead — Management committee; Working groups

- Kicked off process to scope project

Technology and infrastructure
Prototyping / requirements

Policy and regulation
Legislative / regulatory needs

Community engagement
Public support + econ dev

Finance + Operations
Viable project business case

Planning + Design
Viable project business case

Robust network of partners

- Engaged a broad / growing set of local partners

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I-94 Corridor Overview

Basic Corridor Facts

- 11,160 crashes, including 41 fatal crashes and 174 A-level crashes (5-year total)
- The corridor includes up to a dozen Opportunity Zones, 3 academic institutions, and 2 airports including DTW which serves as major job center for Detroiters
- ~72% of Detroiters travel outside of the city limits to get to their place of work, with over 2,500 Detroit residents work in at or near DTW airport
- Minimal transit service on the corridor

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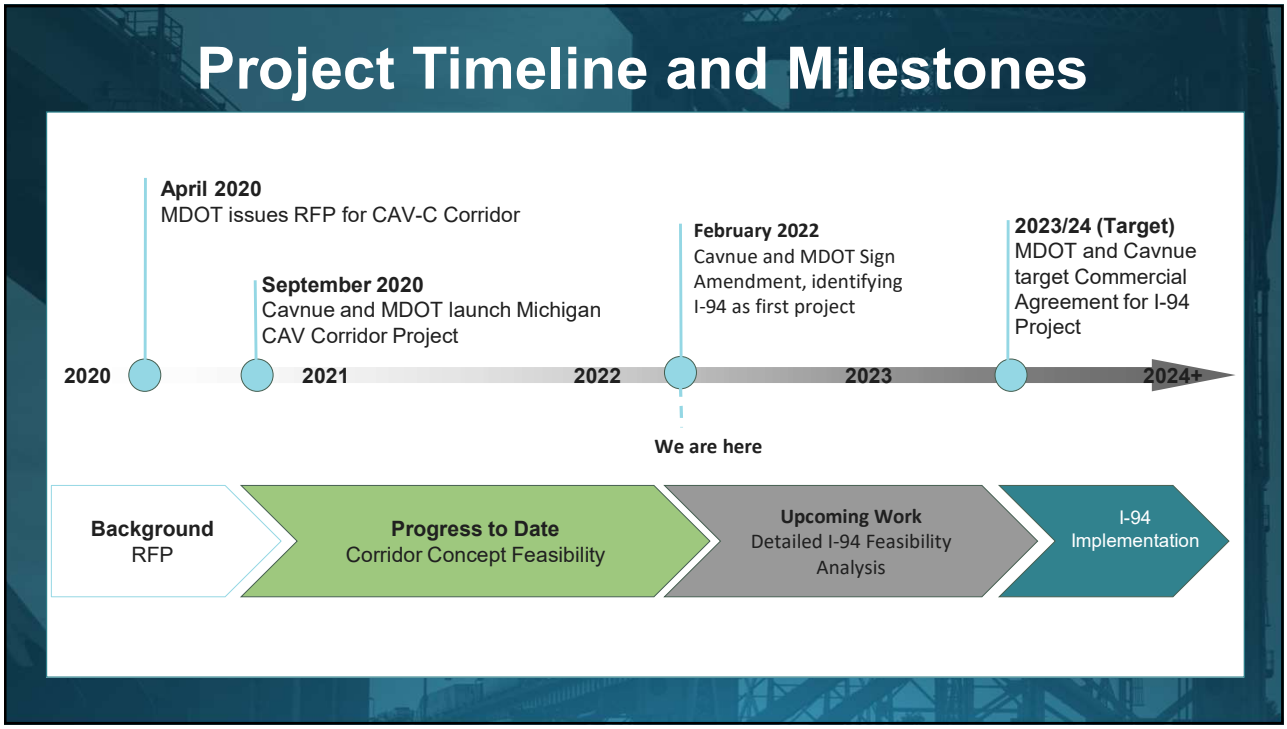
Project Timeline and Milestones
April 2020
MDOT issues RFP for CAV-C Corridor
September 2020
Cavnue and MDOT launch Michigan CAV Corridor Project
February 2022
Cavnue and MDOT Sign Amendment, identifying I-94 as first project
2023/24 (Target)
MDOT and Cavnue target Commercial Agreement for I-94 Project
2020
2021
2022
2023
2024+
We are here
Background
RFP
Progress to Date
Corridor Concept Feasibility
Upcoming Work
Detailed I-94 Feasibility Analysis
I-94
Implementation

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ALL IN TOGETHER
HBCU
Transportation Diversity Recruitment Program
2022
MDOT
TDRP
INTERNSHIP
40

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PROGRAM OVERVIEW
MDOT will seek to create pathways for underutilized groups of students with opportunities that expose them to transportation related careers . This program fosters professional competence,, integrates work experiences with academic knowledge, and develops professional networking opportunities while providing opportunities to earn income to assist with college expenses
Our Mission
To recruit, develop, and retain a high performing workforce
Our Primary Objective
To improve diversity within the transportation industry
Our Goal
To expose underepresented groups to transportation related career opportunities
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PROGRAM HISTORY
2014
4
Interns
2022
65
Interns
HBCU School's Recruitment
15
(Started with 3 in 2014)
ACEC Industry Partners
18
(Started with 4 in 2014)
In-State University Partners
7
(Started with 1 in 2014)
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ALL IN TOGETHER
HBCU
Transportation Diversity Recruitment Program
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Questions?

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